

Title (en)

HIGH-STRENGTH MULTIPHASE TINNED STEEL RAW PLATE AND MANUFACTURING METHOD THEREFOR

Title (de)

HOCHFESTE VERZINNTE MEHRPHASEN-STAHLSCHLATTEN UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

PLAQUE BRUTE EN ACIER ÉTAMÉ MULTIPHASE À RÉSISTANCE ÉLEVÉE ET PROCÉDÉ DE FABRICATION ASSOCIÉ

Publication

EP 3705594 A4 20210707 (EN)

Application

EP 18850495 A 20180828

Priority

- CN 201710761690 A 20170830
- CN 2018102619 W 20180828

Abstract (en)

[origin: EP3705594A1] Disclosed are a high-strength multiphase steel tinned raw plate and a manufacturing method therefor, wherein the mass percentages of the components of the multiphase steel tinned raw plate are: 0.081%-0.14% of C, 0.2%-0.8% of Mn, 0.01 %-0.09% of Al, 0.01%-0.03% of P, 0.002%-0.015% of N, also containing one or more than one of 0.001%-0.005% of B, 0.005%-0.05% of Cr, 0.001%-0.1% of Ti, 0.001%-0.2% of Nb, 0.005%-0.03% of Cu, 0.001%-0.008% of Mo, and the balance of Fe and other inevitable impurities; and satisfy: $0.21\% \leq \text{Mn} + 1.3 \text{ Cr} + 3.2 \text{ Mo} + 0.5 \text{ Cu} \leq 0.91\%$. The tinned raw plate has a structure comprising ferrite grains, pearlite, martensite and cementite particles, wherein the total volume fraction of the pearlite, martensite and cementite particles is 5%-20%, the volume fraction of the martensite is 1%-5%, and the martensite has a solid solution content of carbon of $\geq 0.07\%$. The tinned raw plate has a high strength and better elongation, and can be used to produce a can body, a can bottom, an easy-open end and a twist-off cap, etc. of a three-piece can which has higher requirements for strength and elongation.

IPC 8 full level

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CPC (source: CN EP US)

C21D 1/26 (2013.01 - US); **C21D 6/002** (2013.01 - US); **C21D 6/005** (2013.01 - US); **C21D 6/008** (2013.01 - US); **C21D 8/02** (2013.01 - EP); **C21D 8/0205** (2013.01 - US); **C21D 8/0236** (2013.01 - CN US); **C21D 8/0247** (2013.01 - CN US); **C22C 38/001** (2013.01 - CN US); **C22C 38/002** (2013.01 - CN US); **C22C 38/04** (2013.01 - CN EP US); **C22C 38/06** (2013.01 - CN EP US); **C22C 38/12** (2013.01 - CN EP); **C22C 38/14** (2013.01 - CN EP); **C22C 38/16** (2013.01 - CN EP); **C22C 38/18** (2013.01 - CN EP); **C22C 38/20** (2013.01 - CN EP US); **C22C 38/22** (2013.01 - CN EP US); **C22C 38/26** (2013.01 - CN EP US); **C22C 38/28** (2013.01 - US); **C22C 38/32** (2013.01 - CN EP US); **C21D 2211/003** (2013.01 - CN US); **C21D 2211/005** (2013.01 - CN US); **C21D 2211/008** (2013.01 - CN US); **C21D 2211/009** (2013.01 - CN US)

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